EXAMINER'S AMENDMENT

- An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

- Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, TOMOKI TANIDA, on 08/10/2009.

AMENDMENT TO THE CLAIMS

The listing of claims as below replaces listing in the CLAIMS that was filed by applicant on 06/03/2009.

1. (Currently Amended) A terminal ~~data storage~~ device for performing input/output of classified data in accordance with a constant procedure, storing said classified data, and operating to store history information or update at appropriate timing said history information in accordance with progress of said constant procedure, comprising:

~~an interface performing external input/output of data;~~

a data storage device, wherein the data storage device comprising:

a data storage portion storing said classified data, wherein said classified data includes a plurality of classified data items;

a log storage portion storing a plurality of items of the history information relating to the input/output of said classified data to and from the data storage portion, wherein each of said plurality of items of the history information includes identification information identifying a classified data item, information showing a progress state of input/output processing of the classified data item, and information showing a state of the input/output of the classified data item, wherein said log storage portion is provided as a ring buffer circulatively with two or more regions each storing one item of said history information; ~~and~~

an interface performing external input/output of said classified data to or from the data storage portion;

a control portion controlling the input/output of ~~said~~ at least one classified data item to or from the data storage portion; ~~, wherein each of said plurality of items of the history information includes identification information identifying said classified data, information showing a progress state of input/output processing of said classified data, and information showing a state of the input/output of said classified data, said log storage portion is provided as a ring buffer circulatively utilizing two or more regions each storing one item of said history information,~~

said control portion receives the identification information identifying said at least one classified data item to be input/output via said interface in accordance with start of ~~the~~ input/output processing of said at least one classified data item to or from the data storage portion, searches ~~a plurality of~~ the two or more regions in said log storage portion in a predetermined order, determines the region storing the earliest item of the history information stored in said log storage portion as the earliest region, and stores new history information relating to the input/output processing of said at least one classified data item including said received identification information in the determined earliest region, and

in input processing of said at least one classified data item to the data storage portion ~~including outputting of the history information~~, said control portion ~~receives the identification information of said classified data to be input/output via said interface,~~ searches the ~~plurality of~~ two or more regions in said log storage portion in the predetermined order, determines the latest region storing the newest item of ~~this~~ the history information including said received identification information, and outputs via said interface the information showing the progress state of the input/output processing of said at least one classified data item and the information showing the state of the input/output of said at least one classified data item included in the history information stored in the determined latest region.

2. (Cancelled)

3. (Currently Amended) The terminal ~~data storage~~ device according to claim 1, wherein in input processing of said at least one classified data item ~~including outputting of the history information~~, said control portion searches the ~~plurality of~~ two or more regions in said log storage portion in a predetermined sequence, determines said earliest region and the latest region storing the latest history information including said received identification information, copies a part or the whole of the history information stored in the determined latest region into the determined earliest region to store the copied history information as new

history information relating to the input processing of said at least one classified data item, and outputs a part or the whole of the history information stored in said determined earliest region via said interface.

4. (Currently Amended) The terminal ~~data storage~~ device according to claim 1, wherein in re-output processing of said classified data including inputting of one additional item of the history information recorded in accordance with progress of said constant procedure by another device, said control portion receives said one additional item of the history information via said interface in addition to the received identification information, determines said earliest region and said latest region, and determines whether said classified data is to output or not, based on the history information stored in the determined earliest region and said received one additional item of the history information.

5. (Currently Amended) The terminal ~~data storage~~ device according to claim 1, wherein in output processing of said classified data including inputting of one additional item of the history information recorded in accordance with progress of a constant procedure by another device, said control portion receives said one additional item of the history information via said interface in addition to the received identification information, determines said earliest region and said latest region, copies a part or the whole of the history information stored in the determined latest region into the determined earliest region to store the copied history information as the new history information relating to the output processing of said classified data, and determines whether said classified data is to output or not, based on the history information stored in said determined earliest region and said received one additional item of the history information.

6. (Currently Amended) The terminal ~~data storage~~ device according to claim 1, wherein after said earliest region is determined, said control portion updates at appropriate times the history information stored in said determined earliest region in accordance with progress of the constant procedure before end or interruption of the constant procedure in said input/output processing.

7. (Currently Amended) The terminal ~~data storage~~ device according to claim 1, wherein each of the plurality of items of said history information further includes a management number for identifying sequence stored in said log storage portion, and said earliest region storing the earliest item is detected based on the management numbers respectively included in two items of the history information stored in two regions arranged continuously in said log storage portion.

8. (Currently Amended) The terminal ~~data storage~~ device according to claim 7, wherein said log storage portion is formed of a ring buffer circulatively utilizing regions of N (N is a natural number larger than one) in number, and
said management number is in a residue system of M (M is a natural number satisfying (N < M)).

9. (Currently Amended) The terminal ~~data storage~~ device according to claim 8, wherein said control portion obtains each of the management numbers respectively included in the two items of the history information store in the two regions arranged continuously in the log storage portion, determines whether the two items of the history information respectively including said management numbers are stored continuously or not, based on a difference between the obtained management numbers, and detects one of said two continuous regions subsequent to the other as said earliest region when the two items of the history information are discontinuously stored.

REASONS FOR ALLOWANCE

- The following is an examiner's statement of reasons for allowance:

Prior arts of record do not render obvious, nor anticipate the combination of claimed elements including the limitations: *in input processing of said at least one classified data item to the data storage portion, said control portion searches the two or more regions in said log storage portion in the predetermined order, determines the latest region storing the newest item of the history information including said received identification information, and outputs via said interface the information showing the progress state of the input/output processing of said at least one classified data item and the information showing the state of the input/output of said at least one classified data item included in the history information stored in the determined latest region* as recited in claim 1. Thus, claim 1 is allowed. Dependent claims 3-9 are allowed at least by virtue of their dependencies from claim 1.

- Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAMES K. TRUJILLO can be reached on 571-272-3677. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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